Firestorm Yamaha Viking Cab Heater
HT_CP-425

23001 Industrial Blvd
Rogers, MN 55374
866.527.7637

YAMAHA VIKING COMPACT CAB HEATER KIT INSTALLATION INSTRUCTIONS

Please read all instructions before beginning installation. When working on cooling systems, always allow vehicles to cool to avoid being burned or scalded by hot coolant.

Before working with any electrical system on your vehicle, ALWAYS remove the negative battery cable and secure it away from the battery terminal.

Please check your kit with the parts list and picture below for all required parts.

Qty	Description
1	Yamaha Viking Heater Unit
1	Standard Heater Mount Bracket
1	5' x ⅝'' Heater Hose
13	12" Cable Ties
2	⅞" Y Fittings (Aluminum)
4	#16 Hose Clamps
6	#10 Hose Clamps
1	1 ¼" Hole Saw
2	Grommets (Rubber)
1	36'' Wiring Loom
2	Mounting Support Brackets
2	Heater Core Support Brackets
1	¼'' – 20 x 1 ½" Bolt
1	¼'' - 20 Nylock Nut
2	¼'' – 20 x 1 ¼" Serrated Flange Bolts
2	¼'' – 20 x ¾'' Serrated Flange Bolts

Qty	Description
4	¼'' x 20 U Nuts
6	¼'' Fender Washer
2	#10 x ⅝'' Screws for Plastic
2	¼" ID x ½" OD Spacers
1	Insulation Displacement Crimp
1	Duct Elbow Mounting Bracket
1	90° Duct Elbow
10"	2'' Duct Hose (Compressed)
10"	2.5'' Duct Hose (Compressed)
2	2" Defrost Vents
1	2.5" Duct Y
2	2.5" to 2" Stepdowns
1	2'' Hole Saw
1	3" Hole Saw
1	Pilot Bit (not shown)

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Firestorm Cab Heater Important Note

Technical Support:

- Customer Support Phone - 866.527.7637 (toll free), press #1 at menu prompt
- Technical Support Phone – 866.527.7637 (toll free), press #2 at menu prompt
- Email – MotoInfo@motoalliance.com

Supplemental Instructions: Bleeding air from the coolant system:

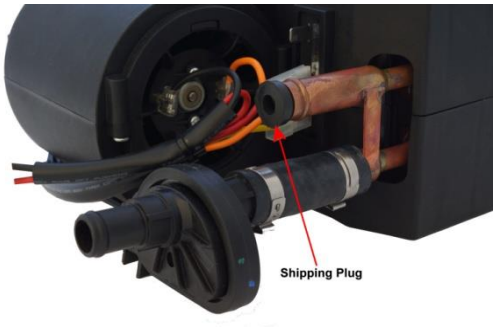
Note: The inlet hose mentioned below refers to the line that sends coolant from the engine to the radiator.

1. Follow the bleeding procedure included in your instructions. If after following the procedure listed in the instructions you still do not get hot air from your heater (at fast idle & engine is hot), then perform the procedure below.
2. Ensure that all coolant levels are filled to the manufacturers recommended levels before starting.
3. Start your SxS and run the engine at fast idle (3000 rpm) until the engine is hot.
4. Locate the inlet hose to the radiator. Pinch off the inlet hose after the radiator Y, so that the majority of the coolant is bypassed through the cab heater. You may need a shop rag to protect your fingers from the heat of the hose.
5. Do this until the radiator fan turns on. Let go of the hose until the fan turns off. Pinch the hose again and complete one more fan on/off cycle.
6. Turn the machine off and let the engine cool down completely (this can take several hours).
7. Check the fluid level in the radiator and the reservoir and fill accordingly.
8. Repeat steps #3-6 once more.
   The above is assuming that you followed the "garden hose" section of the instructions that came with your heater.

Black Shipping Plugs:

Please remove the black plugs that are found on the heater core lines (copper pipes on the back of the cab heater). These are used for keeping the core lines free of dust and debris during shipping.

Firestorm Compact



Firestorm Underhood

Firestorm Upright

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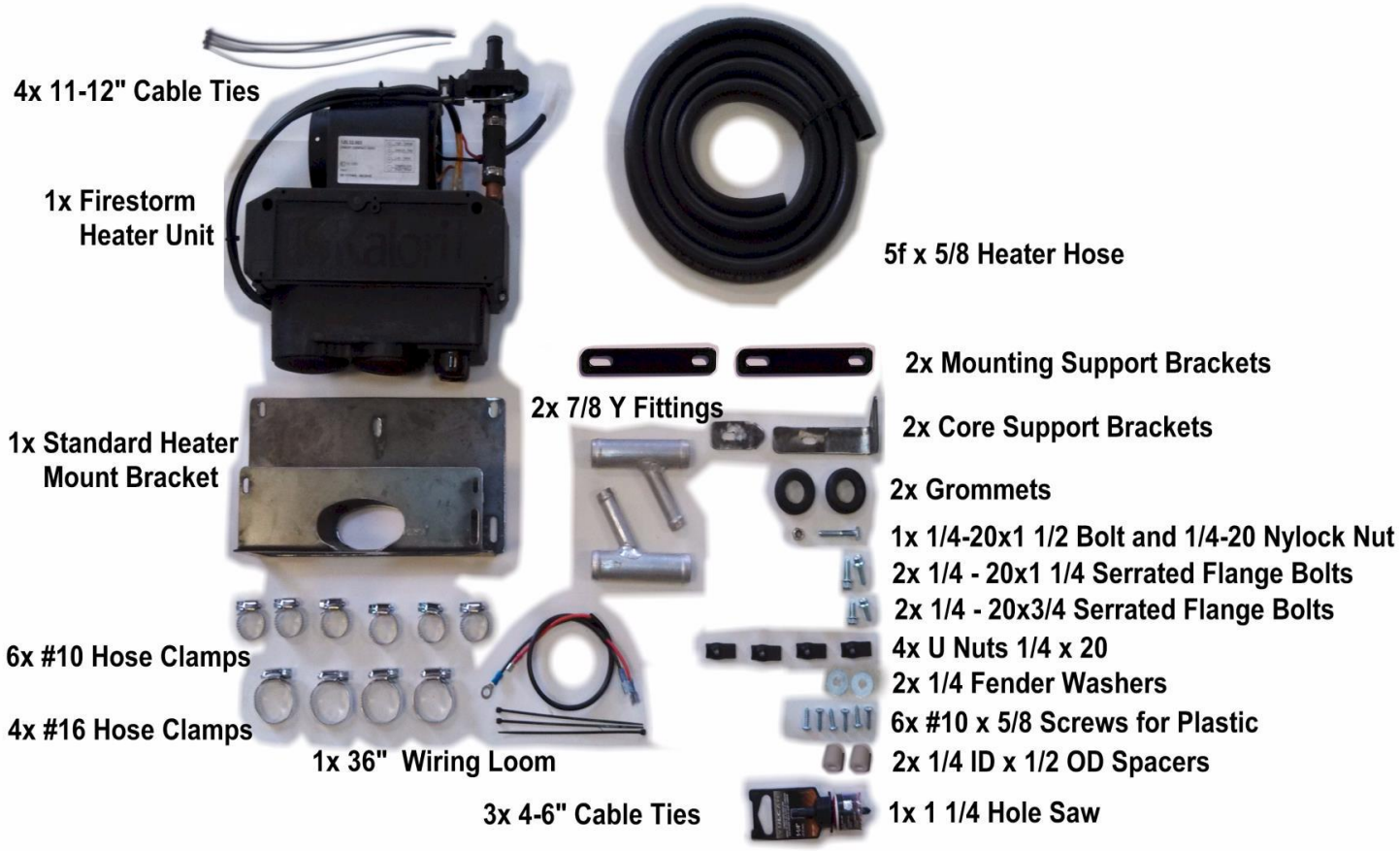
Yamaha Viking Firestorm Heater Kit



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Please note: Before drilling holes, check area behind the firewall panel to make sure no damage will occur by drilling holes.

Cab Heater Installation

1. Cut out the Heater Hole Template and position on the firewall as shown in Figure 1 and as stated on the template.

Figure 1

2. Mark hole saw centers and then remove the Template.
3. Carefully drill the heater hose holes, using the supplied 1 ¼" Hole Saw and Pilot Bit.
4. Drill a ⅜" hole for the control cable for the temperature control valve and wiring.
5. Place supplied Rubber Grommets into the drilled holes.
6. Take the Main Heater Mounting Bracket and hold up under the center of the dash.

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7. Line up the Main Heater Mounting Bracket with the dash molding contour on left side under the dash as shown in Figure 2.

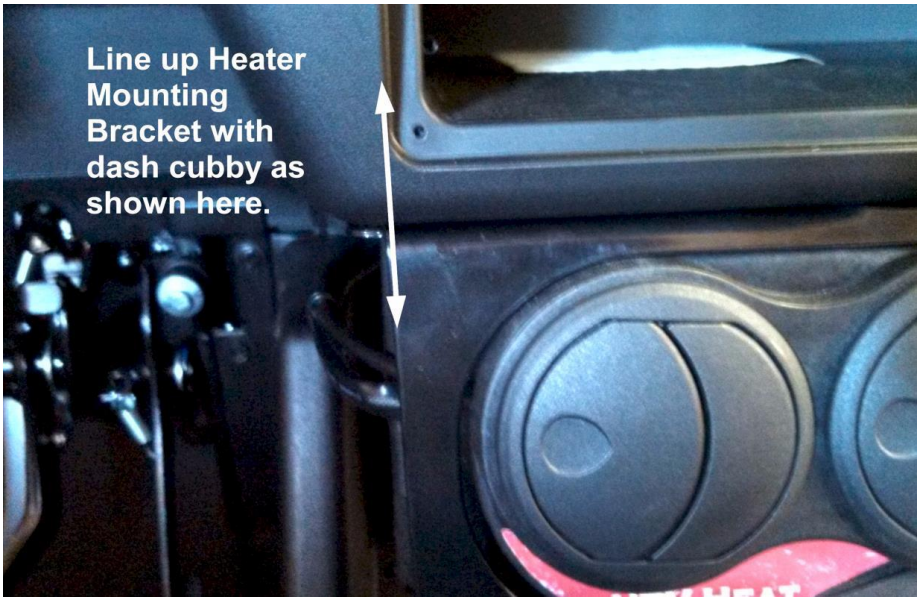

Figure 2

8. Mark the centers of the slotted holes in the Main Heater Mounting Bracket onto the under dash panel.
9. Remove the Main Heater Mounting Bracket.
10. Drill the four (4) mounting holes using a ⅜" drill bit.

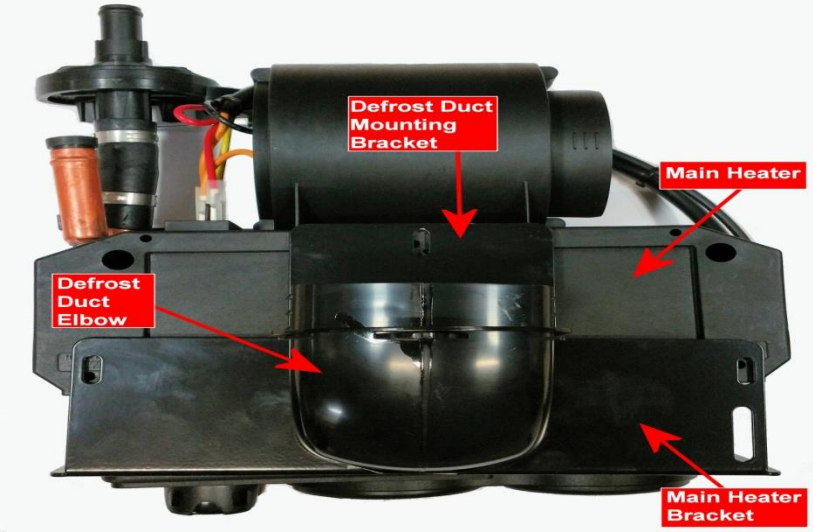

Figure 3

11. Install the Main Heater Mounting Bracket around the Compact Heater Unit (do **NOT** insert screws at this time).
12. Insert the non-flanged end of the Defrost Duct Elbow into the oval hole in the Main Heater Mounting Bracket.

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13. Using a supplied Plastic Mounting Screw, attach the Defrost Duct Mounting Bracket to the Main Heater Mounting Bracket. The oval hole in the defrost duct bracket should fit over the duct elbow and rest flush with the plastic flanges as shown in Figure 3.
14. Attach the Main Heater Mounting Bracket using the supplied Plastic Mounting Screws on both the top and bottom side of the bracket.
15. Using the supplied 5/8" Heater Hose, pass each end of the hose through the Rubber Grommets in the firewall from the *radiator side* of the firewall. **Do not cut hose to do this**.
16. To remove the temperature control valve cable, lift up on the clip as shown in Figure 4 and rotate the cable toward the heater to unseat the cable end. Set clip aside for future use.

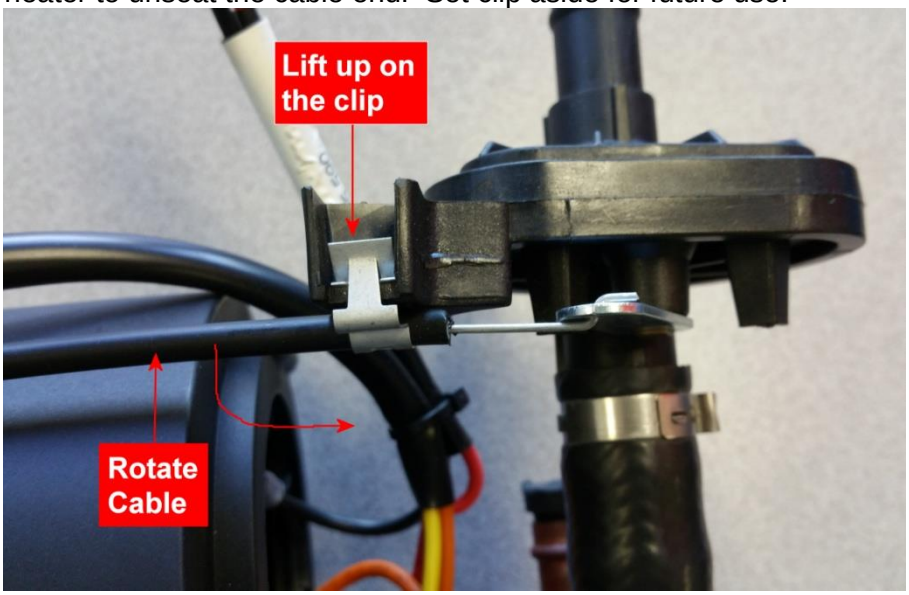

Figure 4

17. Remove the two (2) hose clamps as shown in Figure 5.

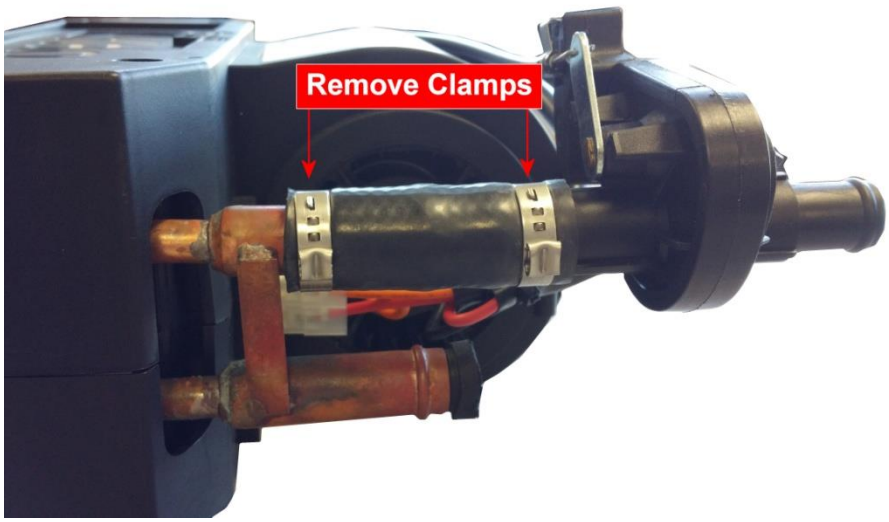

Figure 5

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18. Attach the 5/8” Heater Hoses to the Heater Unit by pushing the hose completely onto the core fittings, as shown in Figure 6.
    Please note: Do not install temperature control valve at this time.

Figure 6

19. Install the Heater Core Support Bracket to hoses as shown in Figure 4. **Do not over tighten.**
20. Install the U-nuts onto Heater Support Brackets as shown in Figure 7.

Figure 7

21. Have a helper hold the Heater Support Brackets behind the dash over the holes. Lift the Heater Unit up into position, pushing the Heater Hoses back through the Rubber Grommets, also passing the control cable for the temperature control valve through the ⅜’’ hole drilled in the firewall.
22. Fit the ¼” x ¾” Mounting Bolts through the two front heater holes of the Main Heater Mounting Bracket, through holes in dash and into the Heater Support Brackets with U-Nuts. **Do not tighten**.

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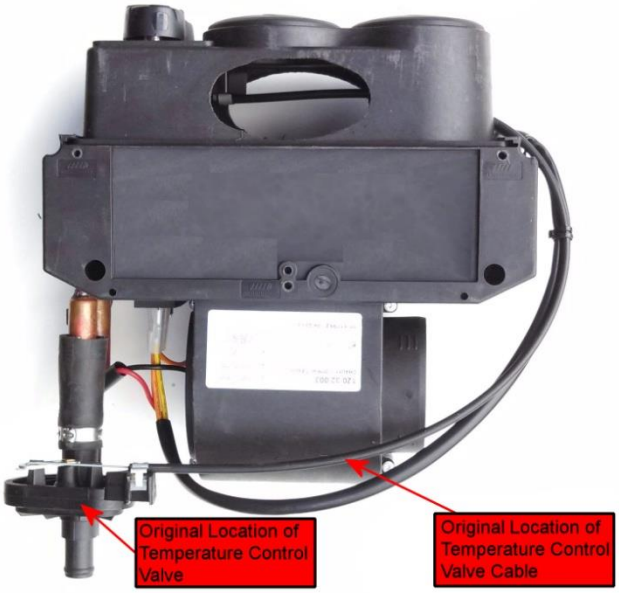
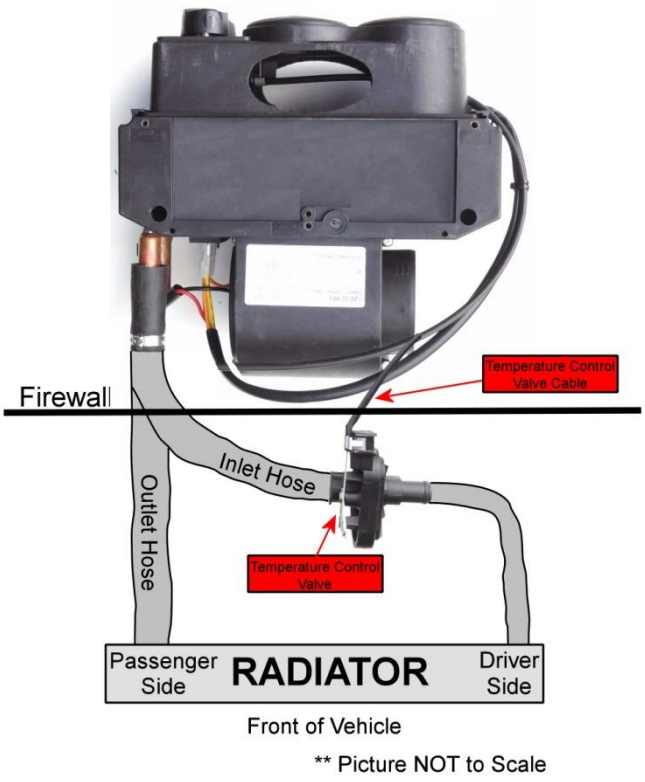
23. Fit the ¼"x 1 ¼" Mounting Bolts though the two rear holes of the Main Heater Mounting Bracket and then install a ½" Spacer and then a supplied ¼" Fender Washer over each of the two bolts through the holes in the dash and into the Heater Support Brackets with the U-nuts. **Do not tighten**.
24. Adjust the heater position as necessary and tighten the mounting bolts.
25. Looking at the radiator side of the firewall, locate the 5/8" hose that connects to the inlet port, which used to have the temperature control valve connected to it.





PLEASE REFER TO THE ABOVE PICTURES FOR THE NEXT 6 STEPS

26. Temporarily position the Temperature Control Valve along the inlet hose from the radiator side of the firewall so that the Temperature Control Valve Cable can reach the Temperature Control Valve.
27. Mark the center point of the Temperature Control Valve on the inlet hose.
28. Cut the 5/8" inlet hose.
29. Insert the Temperature Control Valve in the same orientation it was removed.
30. Secure with supplied #10 Hose Clamps.
31. Reattach the Temperature Control Valve Cable to the Temperature Control Valve.
32. Disconnect the negative battery terminal.

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33. Connect the Wiring Loom to the heater:
    a. Connect the red wire on the wiring loom to the red wire of the heater plug
    b. Connect the black wire on the wiring loom to the black wire of the heater plug

34. Drill a ⅜" hole behind the heater through the lower dash panel to run the Wiring Loom up to the auxiliary power plug.
35. Using the supplied Blue Quick Connector, connect the red wire of the supplied Wiring Loom to the positive side of the auxiliary power plug
36. Connect the black wire to one of the mounting bolts of the voltage regulator under the hood.
37. Remove one of the mounting bolts of the voltage regulator (found under the hood).
38. Insert the mounting bolt into the ¼" ring terminal on the black wire of the wiring harness and reinstall.
39. Reconnect the battery.
40. Turn the key on to check the fan operation.
41. Disconnect the battery.
42. Use cable ties as necessary to secure the wiring loom.

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Defrost Duct Installation

1. Drill a duct hole in the under dash panel using a 3” Hole Saw, as shown in Figure 8.

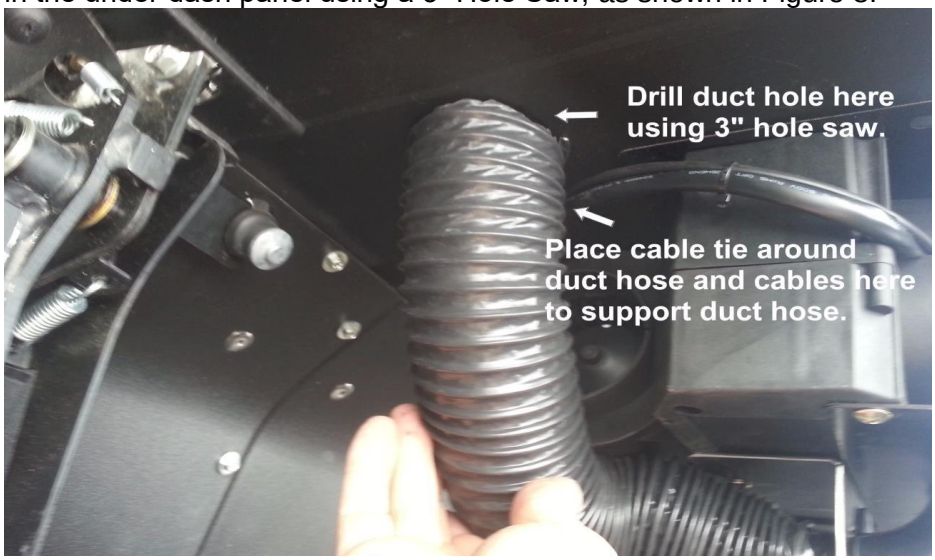

Figure 8

2. Using the provided Defrost Kit Template, mark center holes on dash. See Figure 9 for suggested locations.

Figure 9

3. Using the 2” Hole Saw drill the holes for the vents. *Before drilling any holes, check area behind the dash panels to make sure no damage will occur by drilling holes and that there is sufficient room for the vent and hose.*

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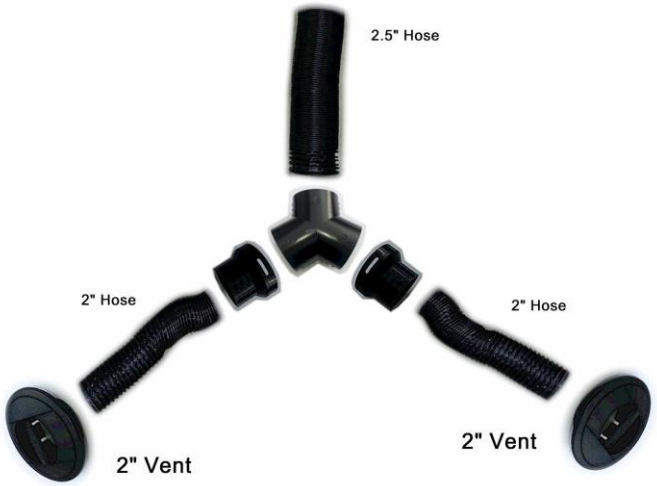
4. Stretch the 2.5” Duct Hose from the Heater Defrost Elbow through the 3” hole drilled in Step 1 and up under the dash.



5. Attach the 2.5” Duct Hose to the Heater Defrost Elbow and secure it with cable ties.
   Note: using a wire cutter, split the hose in half up to 3 rings on each side. This will give more flexibility when attaching the Duct Hose to the Defrost Elbow. Seal with electrical tape if necessary.

6. Connect the other end of the 2.5” Duct Hose to the 2.5’’ Duct Y and secure it with cable ties.
7. Connect the two (2) 2.5” to 2” Step Downs to the open ports on the 2.5” Duct Y.
   Before making a cut in the 2” Duct Hose, verify that both hoses will stretch from the Duct Y to the two (2) 2’’ Vents.

8. Cut 2” Duct Hose accordingly.
9. Connect the two (2) 2” Duct Hoses to the Stepdowns and run them through the 2’’ holes in the dash.
10. Connect the two (2) 2” Duct Hoses to the 2’’ Vents and secure with cable ties.
11. Place Vents into the holes and push down carefully until the Vents snap into place.
    Important Tip: Cleaning any burs from around the hole with a knife will make installing the vent into place easier.

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Coolant Setup

1. Drain the cooling system by removing the passenger side radiator hose.
   Important Tip: Raise the front of vehicle on jack stands or ramps before draining the cooling system. This will help in preventing air locks and you won't have to drain the whole cooling system.

2. Position the Y Connectors as shown in Figures 10a, 10b &10c.
   NOTE: The driver side of the radiator is the INLET side.

Figure 10a

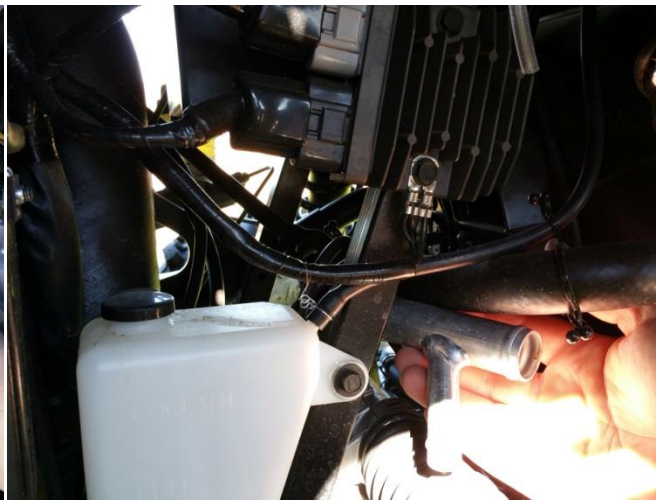

Figure 10b

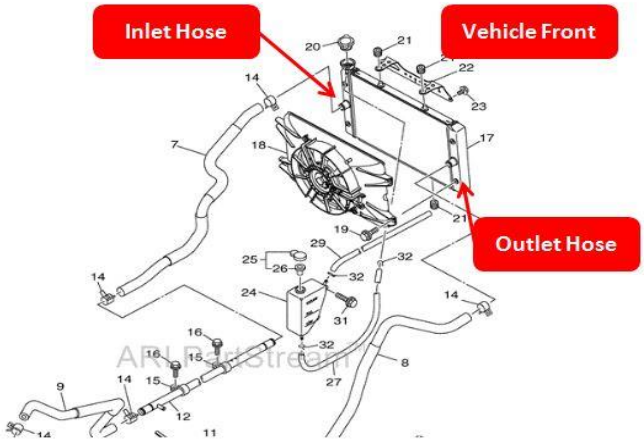

Figure 10c

3. Cut the radiator hoses as shown in Figures 10a & 10b.
   Note: *Before cutting the radiator hoses, be sure that the placement of Y's will not interfere with any part of the vehicle. Be sure the hose connected to the temperature control valve of the heater is connected to the driver side radiator hose.*

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4. Install the Y Connectors into the Radiator Hose and secure with #16 Hose Clamps.
5. Run the 5/8" Heater Hose to the Y Connectors.
   Note: when running hoses, make large bends so as not to crimp the hose.

6. Cut the 5/8" Heater Hoses to length.
7. Before connecting the 5/8" Heater Hoses to the Y connectors, use a garden hose to run water through the heater hose and heater assembly. **This step must be carried out** as it forces air bubbles out of the heater core. Filling the heater core without the pressure of the garden hose leaves the chance for air pockets inside the core. This will lead to no or limited heating during operation.
8. Fit the 5/8" Heater Hose to the Y Connector and tighten the #10 Hose Clamps. Make sure all hoses are as far away as possible from the driveshaft, steering shaft and sharp areas, etc.
9. Use cable ties as necessary.

Bleeding the Coolant System – Read entire section before proceeding

IMPORTANT NOTE: Some amount of air will have made its way into the coolant system. The following bleeding procedure must be performed to eliminate the air and obtain heat.

The following procedure is most easily accomplished with the help of a partner.

1. Move the vehicle to an area where it can be run. If possible, place the front end of the vehicle on ramps.
2. Open the radiator cap and add as much 50/50 premix coolant as allowable.
3. Turn on the machine and run the engine at 3,000-4,000 RPMS until the radiator fan turns on. During this time, continue to add coolant to the radiator as needed. It is normal for coolant to overflow at times as bubbles move through the system.
4. When the radiator fan turns off, release the accelerator. If the temperature reaches 205 degrees, turn off the engine and allow the system to cool down. Once the engine temp reaches approximately 180 degrees, perform steps 3 & 4 again. As air moves out of the system the vehicle's ability to cool itself improves to the point where the radiator fan is able to mitigate the heat generated by the engine. Perform this step for two cycles of the radiator fan. Depending on how much coolant was lost during installation, a third or fourth cycle may be necessary.
5. Close the radiator cap securely. Fill the coolant overflow reservoir to the full line.
6. Again, rev the engine at 3,000-4,000 RPMs until three radiator fan ON/OFF cycles. Turn off the machine and let it completely cool down.
7. In a few hours, check the reservoir level and fill accordingly. Verify that the engine is cold and then open the radiator cap. Fill as necessary. Close the radiator cap.
8. Repeat Step #3 and Step #7 until you no longer see a drop in the coolant overflow reservoir and you feel good heat in the cab after the first radiator fan cycle.
9. Verify there are no coolant leaks.
10. For troubleshooting see the Supplemental Instructions Important Note at the beginning of your instructions.

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Installed View

Before Your Next Ride:

Verify that no leaks have occurred and that the radiator fluid level is per the manufacture's specifications.